indirect method of estimating intra-fraction motion, because it is based on the comparison of prostate position on two EPID of Mv: Before and immediately after the session ends. The position of the gold markers on each daily pair of EPIs was compared to their intended position, as seen on the reference DRR, to determine isocenter placement error, by using the marker matching functions. Patients were treated in the supine position using IMRT. The prescription dose was 76 Gy in 38 fractions. The PTV was required to be covered by 95% of the prescription dose. The mean intrafraction motion (±SD) was 0.02 ± 0.19 cm, 0.11 ± 0.18 cm and 0.11 ± 0.16 cm along the L–R, S–I and A–P axes respectively. If all pre-treatment isocenter placement errors have fully were completely corrected, leaving intra-fraction motion as the only variable affecting during-treatment isocenter placement, PTV margins of 0.36 cm, 0.36 cm and 0.26 cm would be required along the L–R, S–I and A–P axes respectively, to give a 95% probability of complete CTV coverage on any given treatment day. Concluding, while our estimates of CTV to PTV margin requirements along the L–I and S–I axes are comparable to other reports, our estimate of margin requirement along the A–P axis appears to be slightly less than in the other reports using image guidance.

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Pattern care study on invasive bladder cancer at radiation oncology services in Spain

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The combination of transurethral resection of the bladder, chemotherapy and radiation therapy is a validated approach to bladder preservation in cancer muscle-invasive. However there is very little information on the patterns of treatment with radiotherapy. The aim of this study was to assess therapeutic approaches to muscle-invasive bladder cancer at Radiation Oncology Services in Spain. A specifically designed questionnaire was submitted to 86 Radiation Oncology Services in Spain through the SEOR and URONCOR via e-mail in 2010, to assess their therapeutic approach to bladder cancer over the 2005–2009 period. A total of 26 centers (30.5% of the total, of which 96% were public and 81% were university hospitals) answered the questionnaire. 92% reported to have a Urology Tumor Board that makes consensual decisions on muscle-invasive bladder carcinomas. Treatment approaches was reported to be systematically determined by the Board at 92%. A total of 100% of hospitals provide radical 3D conformal radiation therapy and three hospitals also performed IMRT. The radiation therapy scheme designed for "bladder preservation" was reported to include both options: single-dose series (continuous irradiation without response evaluation after 40–45 Gy) or fractionated series (irradiation with response evaluation by cystoscopy and by radical transurethral resection after 40–45 Gy). A total of 64% of hospitals "always" perform single-dose series, of which 19% "sometimes" perform fractionated series. Twenty percent (five hospitals) "exclusively" perform fractionated series, with an average response evaluation interval of seven days. The average of patients on radical radiation therapy in 2005 was 51%; 47% in 2008, and 43% in 2009, with a statistically significant decreasing tendency ($p = 0.02$). At public hospitals in Spain, there are multidisciplinary urology tumor boards where urologists, radiation oncologists and medical oncologists collaborate to systematically make consensual decisions. In this period there is a significant downward trend in the use of radiotherapy for bladder sparing.

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Postoperative adjuvant or salvage radiotherapy (IMRT) after radical prostatectomy

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Purpose. Postoperative radiotherapy in prostate cancer patients treated with prostatectomy improves biochemical progression-free survival (BPFS) and in selected patients prolongs the overall survival. Pelvic IMRT in this group of patients has been poorly explored regarding acute and late toxicity compared with 3DCRT. We retrospectively analyze patients treated in our institution with IMRT after prostatectomy.
Material and methods. Patients with pT3-T4 and/or N+ and/or positive surgical margin received adjuvant IMRT (aIMRT). Patients with biochemical failure (PSA > 0.1 ng/ml) after prostatectomy were treated with salvage IMRT (sIMRT). Dose-range administered was 64–72 Gy in 30–33 fractions. High-risk or very high-risk patients received long-term androgen deprivation therapy.
Results. Ninety-six patients were analyzed, 34 were treated with aIMRT and 62 patients sIMRT. All patients completed the treatment protocol. The median time intervals from surgery to aIMRT and sIMRT were 3-months and 19.5-months, respectively. Adverse events were recorded following the CTCAE v4.0 score. Grade 1–2 and grade 3–4 acute GU toxicity were observed in 52 patients (54.2%) and 1 patient (1.0%), respectively. Thirty-seven patients (38.5%) had grade 1–2 acute GI toxicity and no patient with grade 3–4 GI complications was recorded. Eighty-five patients were evaluated for late complications and grade 1–2 chronic

GU toxicity was observed in 16 patients (19.0%) and 2 patients (2.4%) had grade 3–4 GU adverse effects. Grade 1–2 late GI toxicities were presented in 6 patients (7.1%) and no patient had grade 3–4 late GU toxicity. After a median follow-up of 70-months, the median BPF and 5-year BPFS in the groups treated with aIMRT and sIMRT were 114-months/88% and not-reached/80%, respectively.
Conclusion. The profile of acute and late adverse effects in prostatectomy patients treated with aIMRT or sIMRT is compared favorably with 3DCRT series. Further follow-up and the inclusion of a greater number of patients are needed to assess the definitive effect of aIMRT or sIMRT in late toxicity, biochemical failure and overall survival.

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Postoperative radiotherapy in localized prostate cancer: Referral criteria from urology departments

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Purpose/objective. To review the criteria followed by urology departments to refer patients to postoperative External Beam Radiotherapy (EBRT) for localized prostate cancer (PCa) after Radical Prostatectomy (RP).
Material/methods. Data from 159 consecutive patients referred from 4 different urology departments, were collected between 2007 and 2012. Clinical and pathological data were analyzed, including a double risk-group classification before and after PR, postoperative EBRT criteria, time from indication to EBRT and pre-EBRT PSA.
Results. The mean age of our series was 60.9 years (SD: 6.5). In a not negligible percentage of patients, the risk group and other clinical and/or pathological factors could not be determined due to lack of data from referral reports. Before RP, 17.6%, 43.4%, 17% and 22% of patients were classified into low, intermediate, high or undetermined risk-group, respectively. After RP, 3.1%, 23.9%, 68.6% and 4.4% were defined as low, intermediate, high or undetermined risk-group, respectively. 62.9% of patients had pT3a-b/T4 tumours and 58.5% had positive surgical margins (unknown: 7.6%). An undetectable level of post-RP PSA (<0.10 ng/ml) was reached by 47.2%, while a permanently detectable-PSA (PD-PSA) $\geq$0.10 ng/ml was present in 42.8% (unknown: 10%). Referral and corrected EBRT intention were adjuvant (28.9% and 11.9%, respectively) and salvage (71.1% and 88.1%; patients with a PD-PSA were classified in salvage-EBRT intention group). Median time from BF to EBRT was 5 months (range: 0–145) and 35.2% had a pre-EBRT PSA $\geq$1 ng/ml (unknown: 11.9%).
Conclusions. A majority of patients were referred for salvage-EBRT, although most of them met established criteria for adjuvant-EBRT (pT3a-b/T4 and/or positive margins). In salvage setting, attention should be paid to avoid undue delay in the time from indication to EBRT referral, not to exceed PSA pre-EBRT described limit of 1 ng/ml. High quality data are desirable to a better decision-making process in this setting.

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Primary mucin-producing prostate adenocarcinoma presenting as a gluteal mass. A case report and review of the literature

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Aim. To report a rare case of primary mucin-producing prostate adenocarcinoma that arise as right pararectal mass and discuss the clinical diagnosis, treatment and prognosis of the mucin-producing carcinoma of the prostate from a review of published reports.
Materials and methods. We describe a case of a 74-year-old patient who had 2-month history of urinary frequency and dysuria that in the last month noticed a gluteal mass without pain. Was initially suspected neoplasm of rectal origin, so various tests was performed both clinically and immunohistochemically to confirm its origin.
Results. After discarding a neoplasm of rectal origin, this case was diagnosed as a high risk locally advanced prostatic mucin-producing adenocarcinoma with elevated PSA presenting as a gluteal mass, which was pending to begin long-terms androgen suppression therapy (2–3 years) plus resection of the mass and external beam radiation therapy. Reviewing the literature, there is no case with a gluteal mass presentation. Comparing our case with the literature, the primary mucin-producing adenocarcinoma is a variant of high-grade adenocarcinoma of the prostate with high rate of prostate-specific antigen elevation.
Conclusions. Mucin-producing adenocarcinoma of the prostate is extremely rare and is a first case with a gluteal mass presentation. Its differential diagnosis mainly includes conventional prostatic adenocarcinoma with mucin production urothelial-type and secondary adenocarcinoma. The diagnosis and treatment of this disease should be further investigated. Although it has been suggested that mucinous carcinoma is a variant of high-grade adenocarcinoma of the prostate, and their prognoses are very poor.

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